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| i2 TECHNOLOGIES US, INC. ONE i2 PLACE, 11701 LUNA ROAD DALLAS, TX 75234 | | | | |
| | | | EXAMINER JARRETT, SCOTT L | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3623 | |

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/771,207

Applicant(s)

SLOCUM, GREGORY H.

Examiner

Scott L. Jarrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Non-Final Office Action is responsive to Applicant's Request for Continued Examination filed October 28, 2005. Currently claims 37-51 are pending.

Response to Amendment

2. Applicant's amendments filed on September 29, 2005 (after final amendment) and October 28, 2005 (request for continued examination) with respect to amended claims 37-48 and new claims 49-51 necessitated new ground(s) of rejection.

The objection to the abstract in the previous office action is withdrawn.

The USC 112 rejection of Claims 37-48 in the previous office action is withdrawn.

Response to Arguments

3. Applicant's arguments with respect to amended claims 37-48 and new claims 49-51 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 37-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aspen Technology's suite of Enterprise Optimization system and method for Manufacturing (products commonly referenced as: eSupply Chain, Plantelligence, MIMI, PMIS, Manufacturing Suite, e-Business Solution, Enterprise Optimization) aspects of which are disclosed in the following:

I. Hydrocarbon Processing's Advanced Control and Information Systems (Sept. 1999), herein after reference A.

II. Banker et al., AspenTech Expands Oil & Gas Solution (Jun. 2000), herein after reference B.

III. Aspen Announces Availability of eSupply Chain Suite to Optimize Flow of Knowledge and Materials for Process Manufacturing Industries (Aug. 2000), herein after reference C.

IV. Aspen Technology's e-Business Solution Lets Petroleum Companies Manage Consumer Demand, Fulfillment in Real-Time (Nov. 2000), herein after reference D.

V. AspenTech.com Web Pages (Jun.-Dec. 2000), herein after reference E.

Regarding Claims 37, 41 and 45 AspenTech teaches a suite of systems and methods for managing the complete (end-to-end, holistic) process manufacturing business “through optimizing three critical process industry value chains, viz., (1) extended supply chain, (2) manufacturing and (3) the process and plant design lifecycle.” (reference A: Page 37, Paragraphs 3-5) wherein “The supply chain model will understand different types of products that can be made (high octane fuel versus aviation fuel), which plants can process the fuel, which plants are capable of making various products, the yields, transportation costs, and the prices achievable for the finished products. The supply chain module decides what will be produced where by balancing constraints to maximize profitability.” (reference B: Last Paragraph, Page 3; as well as “Provide a demand pull emphasis to their supply chain, linking customer demand through the entire supply chain, i.e., from finished product supply and distribution through to manufacturing and crude acquisition.” (reference A: Bullet 1, Page 110; Reference B: “The Oil & Gas value chain can be characterized as having three components: an upstream component focused on purchasing crude and getting it to the refinery, the complex refining process and the downstream component.”, Paragraph 2, Page 1; reference D: end-to-end supply chain management system and method from crude selection to final/end product delivery, Paragraph 3, Page 1).

AspenTech further teaches that “Extended supply chain optimization enables process manufacturers to determine the mix of products that will make the most money; source raw materials at the right time, quality, cost and location; and deliver products to the right place at the right time and at the lowest cost. The suite of products used for

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supply chain optimization integrates with enterprise resource planning (ERP) systems and the Aspen Plantelligence product suite to drive optimized transaction execution and recording. The supply chain suite enhances the enterprise's capabilities to react effectively and efficiently to internal and external market forces and make informed decisions based on current information in the areas of strategic planning, network design and demand management including supply, production and distribution planning, transportation planning and execution, and available-to-promise." (reference A: Paragraphs 3-5; Page 37; reference A: Pages 37-38, 76-77, 110-111; reference E: Paragraph 3, Page 6; Bullets 1-2, Page 7; Pages 18, 22-24, 30-33).

More specifically AspenTech teaches a system and method for manufacturing forecasting comprising:

- storing (recording, saving, etc.) a plurality (first/second intermediates) of end/final, intermediate, by and co-product information including but not limited to demand representative of a predicted (forecasted, estimated, etc.) end/final, intermediate, by and co-product demand (reference A: Paragraphs 3-5, Page 37; reference C: addresses process industry specific features including "Modeling capabilities for by and co-products. Planning and detailed scheduling for multi-plant intermediates.", Bullets 1-2, Page 2; reference E: Bullets 1-2, Page 7; "data repository", Last Paragraph, Page 23);
- determining, based on the plurality of end/final, intermediate, by and co-product product demand information, end/final, intermediate, by and co-product demand quantities to manufacture/produce in order to meet the predicted future demand wherein

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the end product comprises the production/further processing of a plurality of intermediate, by and co-products (reference A: Paragraphs 3-6, Page 76; Paragraph 1, Page 77; Paragraphs 3-6, Bullet 1, Page 110; Paragraphs 1-3, Page 111; Reference B: "Demand-Planning and Fulfillment", Paragraphs 3-4, Page 1; demand management part of the "traditional supply chain"; predict future demand, Paragraph 1, Page 2; reference C: "real-time planning, scheduling and execution as well as accurate reporting, forecasting and analysis", Last Paragraph, Page 1, demand management, Paragraph 5, Page 2; "Collaborative Planning Forecasting and Replenishment", Paragraph 1, Page 3; reference D: "enable petroleum companies to monitor consumption across their entire retail network, create demand forecasts and generate plans to replenish their outlets in the most efficient and profitable way., Paragraph 2, Page 1; "demand management", Paragraph 4, Page 1);

- determining, based on the plurality of end/final, intermediate, by and co-product demand quantities total end/final, intermediate, by and co-product quantities that the manufacturer can produce (capacity, production scheduling, manufacturing suite, production sequencing, batch sizes, etc.; reference A: Paragraph 5, Page 37; Paragraph 3, 5, Page 76; Paragraphs 3-4, Page 37; reference E: Page 13, Paragraph 2; Page 16).

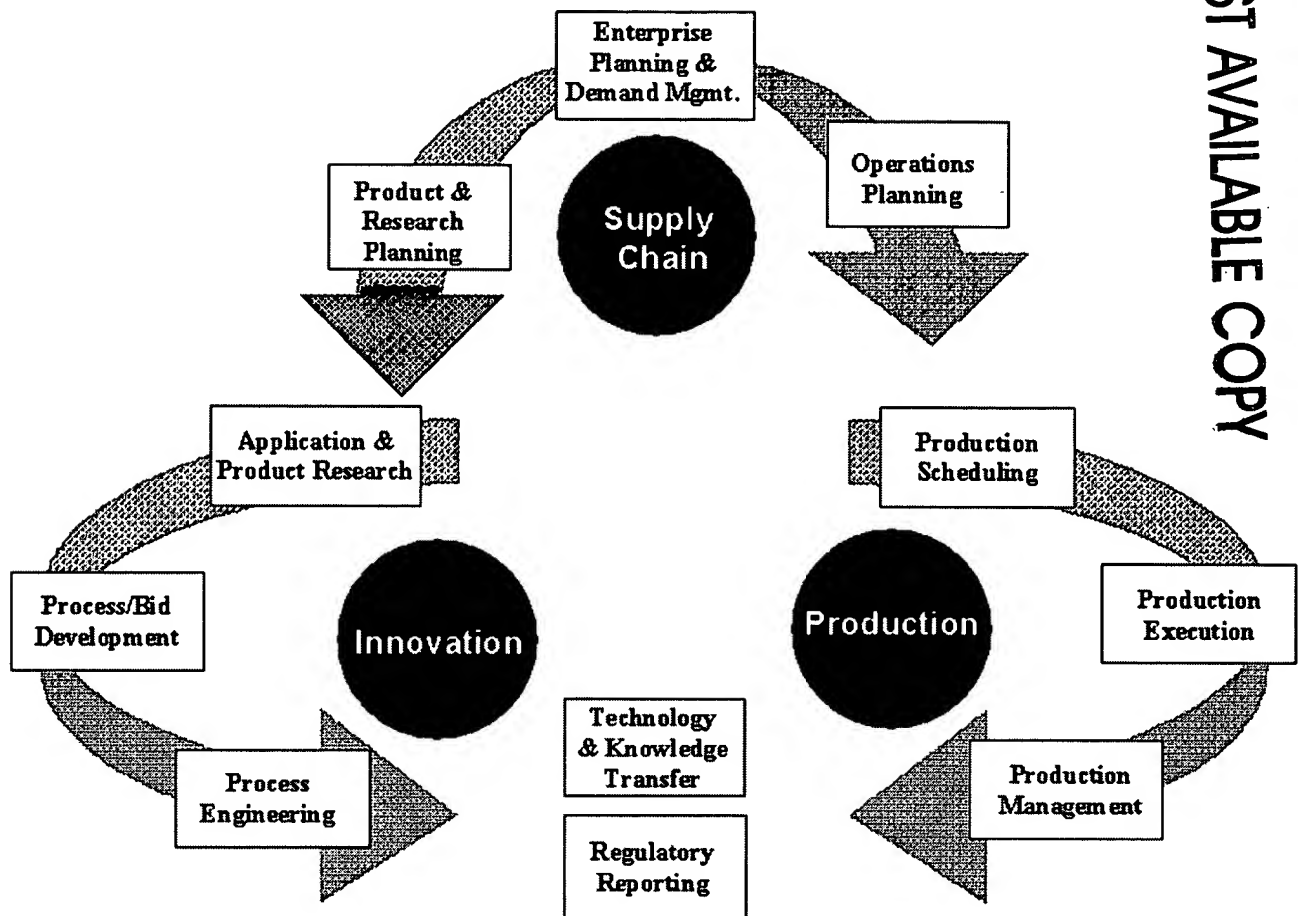
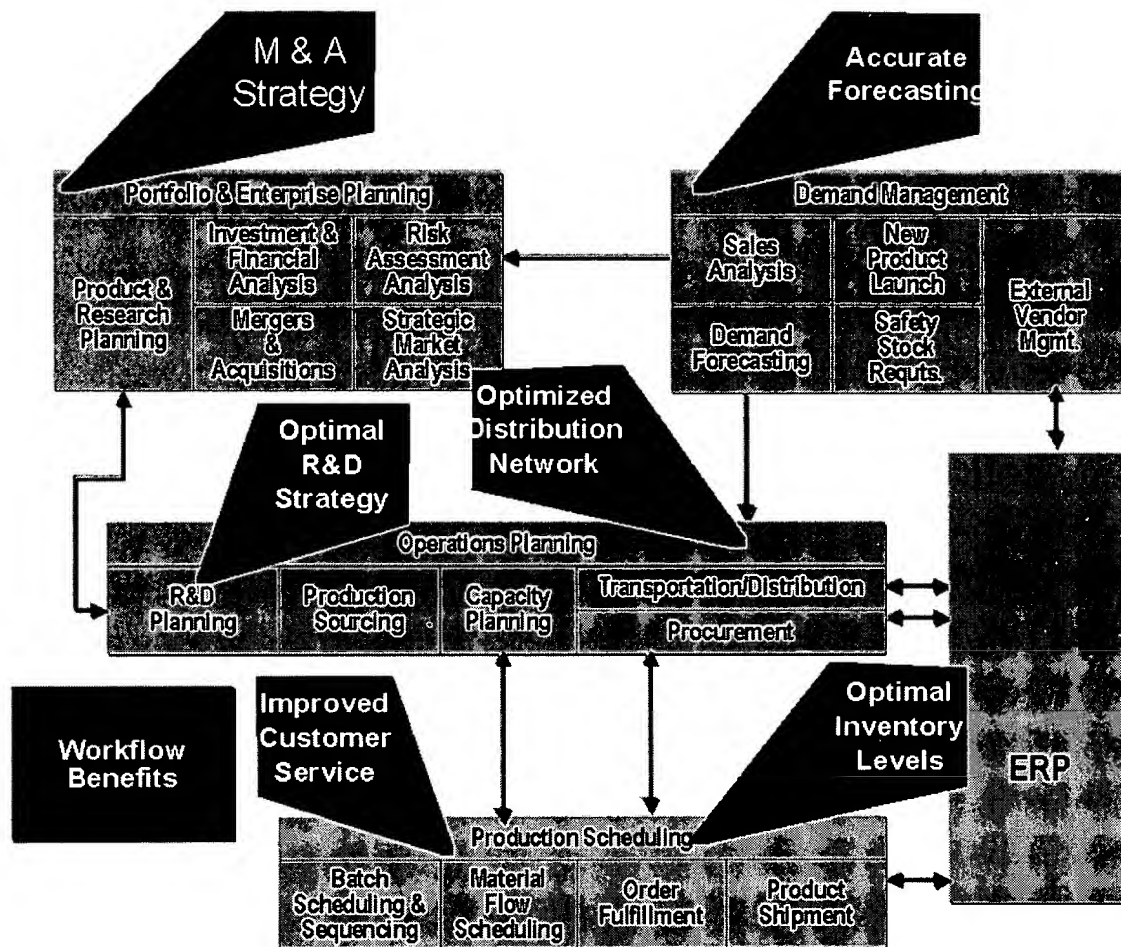


Figure 1: reference E: Page 22, Figure 22



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Figure 2: reference E: Page 24, Figure 24A

While AspenTech teaches a manufacturing system and method that enables businesses produce the right mix of products at the right time and place based on demand information for a plurality of end/final, intermediate, by and co products as discussed above AspenTech does not expressly teach that production (manufacturing) of the end product *requires* the production and/or further processing of a plurality of intermediate, by and co-products as claimed.

Official notice is taken that it is old and very well known in the petroleum, petrochemical, hydrocarbon and/or olefin industry that end/final products require the production and/or further processing of plurality of intermediate, by and co-products wherein petroleum businesses commonly convert/transform/process final/end, by and co-products into one another in order to achieve the most effective, efficient or profitable product mix.

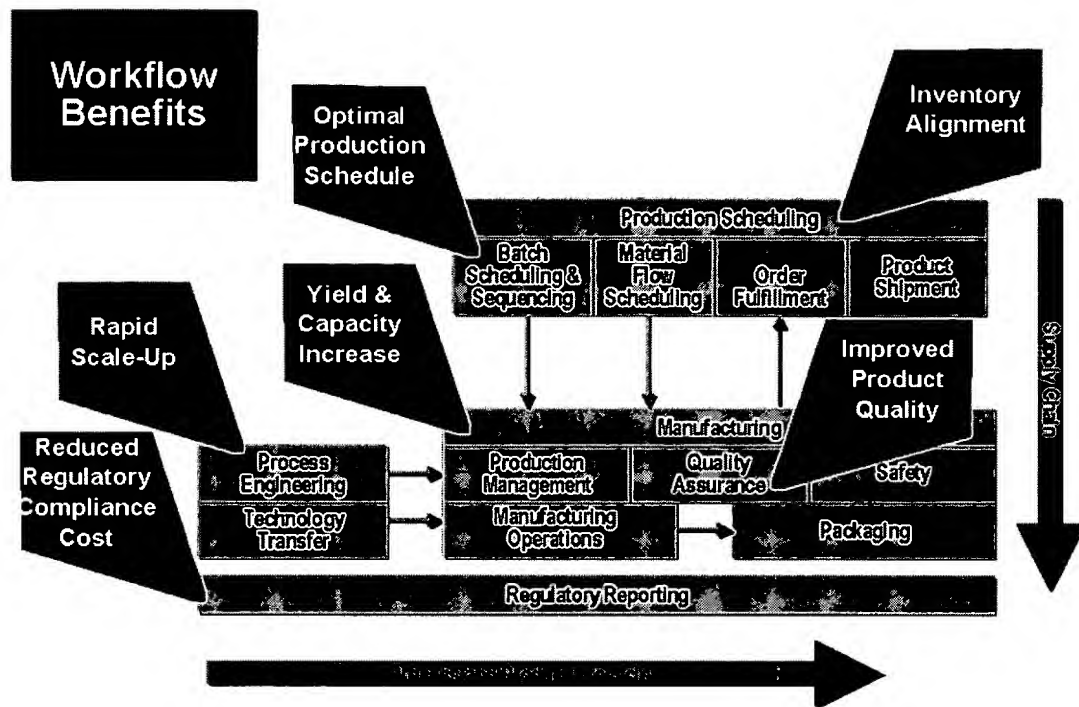
For example in petroleum refining crude oil undergoes a multiple stages of processing wherein intermediate and/or by-products of some stages are used to further process/produce end/final and/or intermediate products, Gasoline/Kerosene can be produced, via a hydrotreater, from a combination of fuel oil and by products of cat cracker and coker processing.

It would have been obvious to one skilled in the art at the time of the invention that the process manufacturing management system and method as taught by AspenTech with its ability to model (forecast, plan, etc.) a plurality of end/final products involving a plurality of intermediate, by and co-products and its application to the petroleum industry would have been utilized to manage any of a plurality of petroleum, petrochemical, hydrocarbon and/or olefin end/final products that require the production and/or further processing of plurality of intermediate, by and co-products in view of the teachings of official notice.

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Regarding Claim 38 AspenTech teaches a manufacturing forecasting system and method wherein the end, intermediate, by and co products are chemical products (petrochemical, petroleum, pharmaceutical, process manufacturing, olefin, hydrocarbon, etc. reference A: Pages 38, 76, 110; reference B: Page 1, Paragraph 1; reference C: Page 2, Paragraphs 2-4, Bullets 1-2; reference D: Page 1, Paragraphs 1-3; reference E: Pages 30-33).

Regarding Claims 39-40, 43-44 and 47-51 AspenTech teaches a manufacturing forecasting system and method further comprising storing (saving, collecting, database, data repository) end/final, intermediate, by and co product information representative of a total amount of end/final, intermediate, by and co product that can and/or will be produced during a particular time period (inherent in production scheduling, planning, management, optimization, capacity planning, manufacturing suite, demand planning and fulfillment, Plantelligence, PIMS; reference A: Paragraph 5, Page 37; Paragraph 3, 5, Page 76; reference E: Page 13, Paragraph 2; Pages 16, 22-23; Figures 22, 23A, 24).



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Figure 3: reference E: Page 23, Figure 23A

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Cerutti et al., U.S. Patent No. 5,603,070, teach a manufacturing forecasting system and method wherein the system collects, stores and utilizes a plurality of final/end product, intermediate (subassemblies) product and raw material information including but not limited to demand quantities (i.e. quantities that need to be and/or can be manufactured/produced in order to meet demand) in order to optimize the production/manufacturing of the plurality of end products. Cerutti et al. further teaches that the manufacturing forecasting system and method is applicable to a plurality of multi-level (multi-stage) manufacturing processes such as the chemical processing of silicon wafers.

- Cox et al., U.S. Patent No. 6,865,542, teach a system and method for manufacturing forecasting wherein the system forecasts the production, consumption/sales, prices, and the like of a plurality of primary (end/final), processed and intermediate products (commodities) thereby enabling "industries to formulate management and procurement strategies that optimally allocate industrial or technological resources employed in the production, consumption and/or trading of the dairy commodities."

- Willems et al., U.S. Patent Publication No. 2002/0072956, teach a system and method for optimally configuring a multi-stage/multi-level manufacturing process (product) wherein the system collects, stores and utilizes a plurality of final/end and

intermediate product information including but not limited to demand quantities (e.g. demand for an immediate successor during a period of time is directly related to the demand of the precursor).

- Speight, James, The Chemistry and Technology of Petroleum (1999) teaches the old and well known manufacturing/processing of petroleum into a plurality of end, intermediate and by-products as well as the effects of demand for one or more of the products have on the related (downstream/upstream) products.

- William, Leffler, Petroleum Refining in Nontechnical Language (2000) teaches the old and well known processing of petroleum into a plurality of final/end, intermediate and by-products.

- Maples, Robert, Petroleum Refinery Process Economics (2000) teaches the old and well known batch/continuous manufacturing/processing of petroleum (olefin, crude oil, hydrocarbons, etc.) into a plurality of end, intermediate and by-products.

- Miller et al., A Comparison of Alternative Forecasting Strategies for Multi Stage Production Inventory Systems (1976), teach the old and very well known forecasting of demand for final/end and intermediate products (successor, precursor) wherein "the demand for precursor items derives from the demand for successor items at later stages in the system."

- Baan's Commitment to Process Industry Marked by New Functionality, Solution Centers and Partners (1997) teaches the commercial availability of Baan's end-to-end supply chain methods and systems for the process industry wherein the processing/manufacturing includes end, co and by products.

- Lescher, Fritz, Making Your Enterprise Internet-Ready: E-Business for the Process Industries (2000), teaches well known supply chain methods, approaches, and systems applied to the process manufacturing industry to form “integrated supply chain & planning systems” that enable business to do such things as more accurately plan product production and participate in collaborative forecasting over the Internet.

- Aspen Technology Launches PetroVantage (2000) teaches an “extended supply chain” system and method which enables process manufacturing businesses to utilize “market leading supply chain, planning and scheduling tools” from companies such as IBM and AspenTech.

- Aspen Technology Delivers Aspen Bulk (2000) teaches the commercial availability and public use of a manufacturing system and method for the process manufacturing industry wherein the system enables manufacturers to forecast demand for a plurality of end products (downstream) and intermediate products/raw materials (upstream; i.e. demand planning/management/forecasting).

- Eichmann, Don, Creating a High-Performance Downstream Petroleum Supply Chain (2000) teaches the application of well known and widely used supply chain methods, techniques, approaches and systems to managing the petroleum (hydrocarbon, continuous/batch) supply chain including but not limited to demand forecasting and planning.

- Plantelligence in the Chemical Process Industry (Unknown Date) teaches the utilization of AspenTech’s systems and methods for managing the petrochemical supply chain wherein a plurality of raw materials, end and co products are

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manufactured/processed (i.e. multi-stage manufacturing/processing, derivative plans, etc.). The article further teaches a plurality of well-known and key business processes “encountered in the chemical industry, which are enhanced through the use of Plantelligence” and key manufacturing data.

- Weitzel, Dale, How to manage your refining supply chain form E-to-E (2000) teaches “a shift from a supply-push model to a demand-pull model” in the process manufacturing industry, specifically petroleum refining. Weitzel further teaches that the demand-pull model uses demand data (e.g. demand forecasts) to plan/manage the production and procurement of crudes, intermediates and final products. Weitzel teaches that companies such as Aspen Technologies provide systems/methods that enable businesses to manage the “upstream” portion of the supply chain wherein upstream planning evaluates alternative feedstocks (raw materials) and product slates in order “to make enough of the right products to cover demand.”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SJ

12/12/2005


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